

Abstract of the Invention

Oligonucleotides containing unthylated CpG dinucleotides and therapeutic utilities based on their ability to stimulate an immune response in a subject are disclosed. Also 5 disclosed are therapies for treating diseases associated with immune system activation that are initiated by unthylated CpG dinucleotides in a subject comprising administering to the subject oligonucleotides that do not contain unmethylated CpG sequences (i.e. methylated CpG sequences or no CpG sequence) to outcompete unmethylated CpG nucleic acids for binding. Further disclosed are methylated CpG containing dinucleotides for use antisense 10 therapies or as in vivo hybridization probes, and immuno inhibitory oligonucleotides for use as antiviral therapeutics.